



1/33

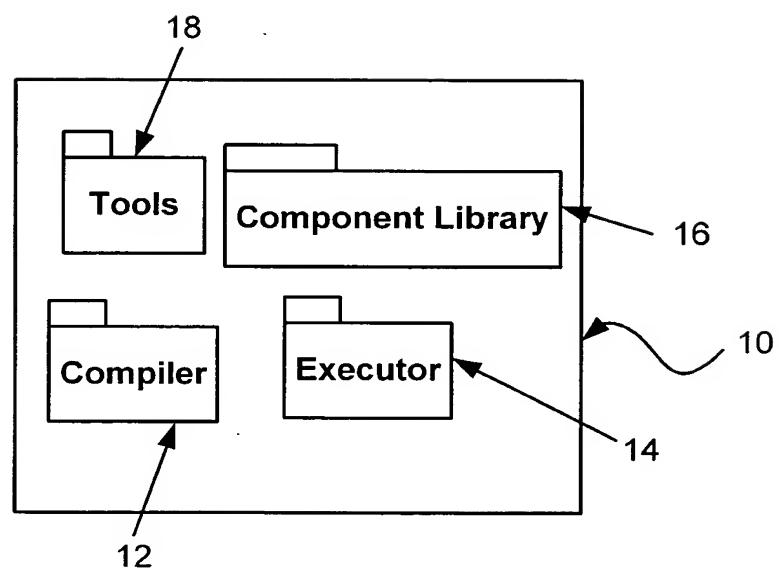


FIG. 1

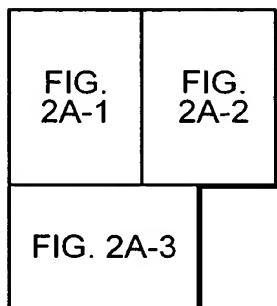
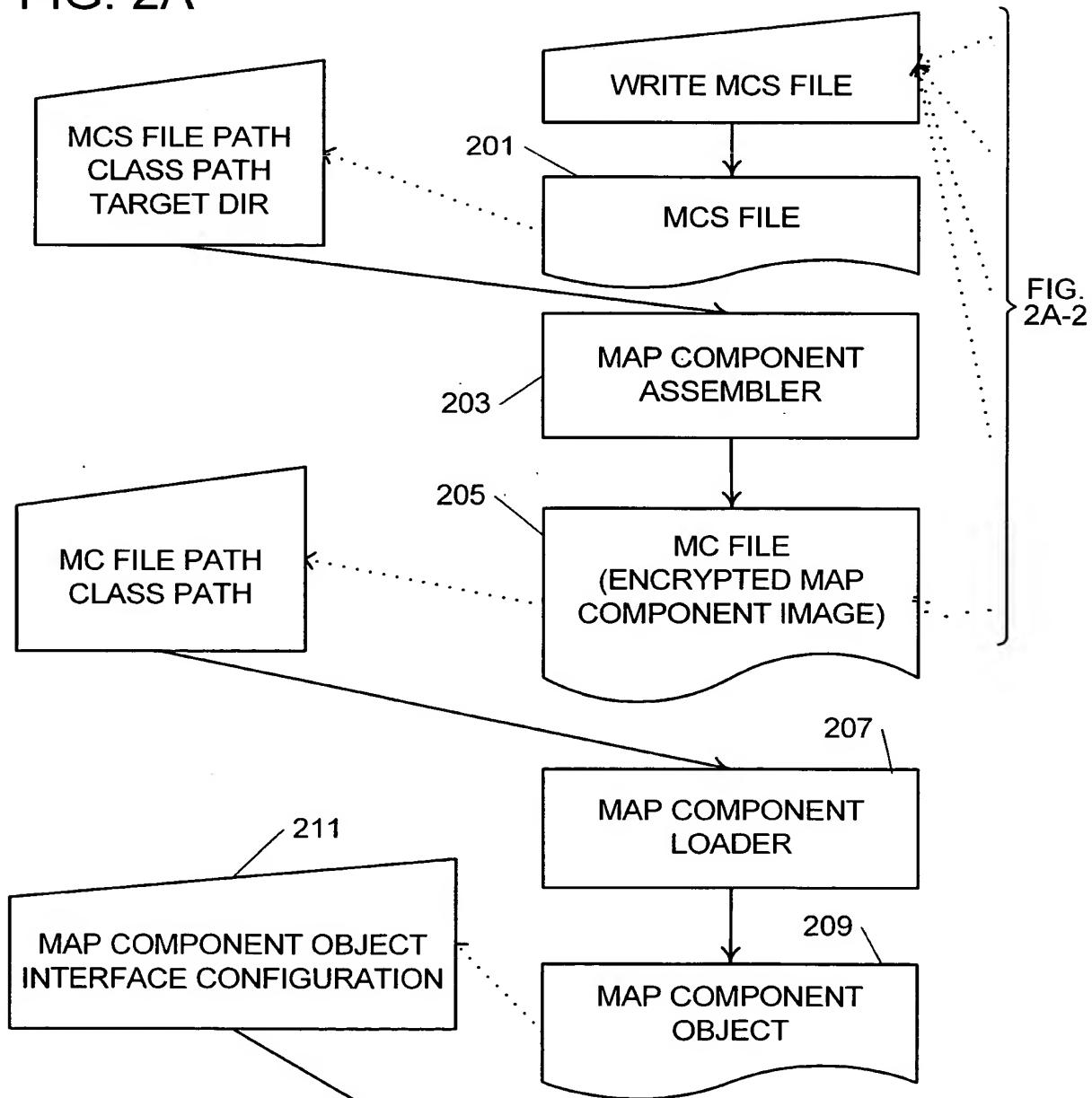


FIG. 2A



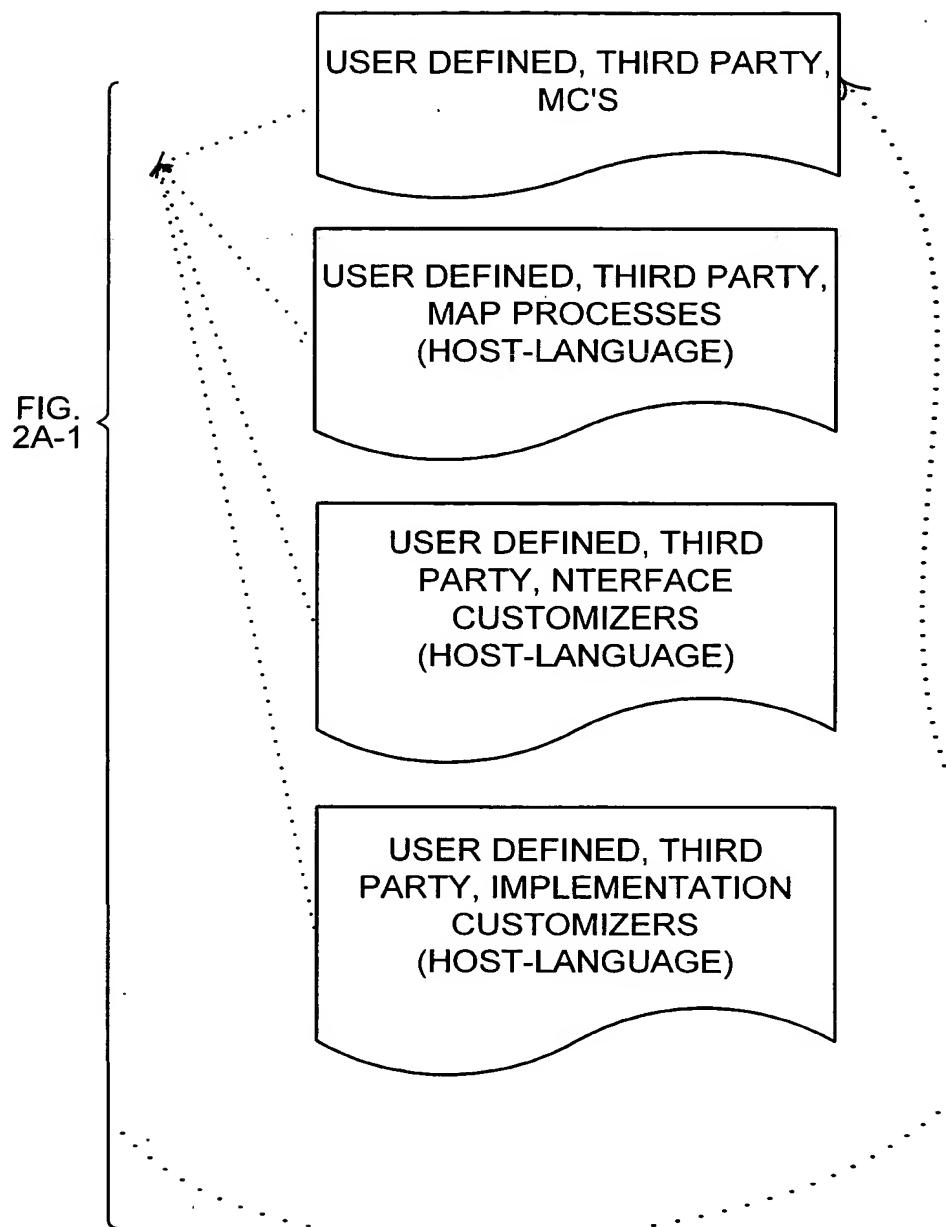
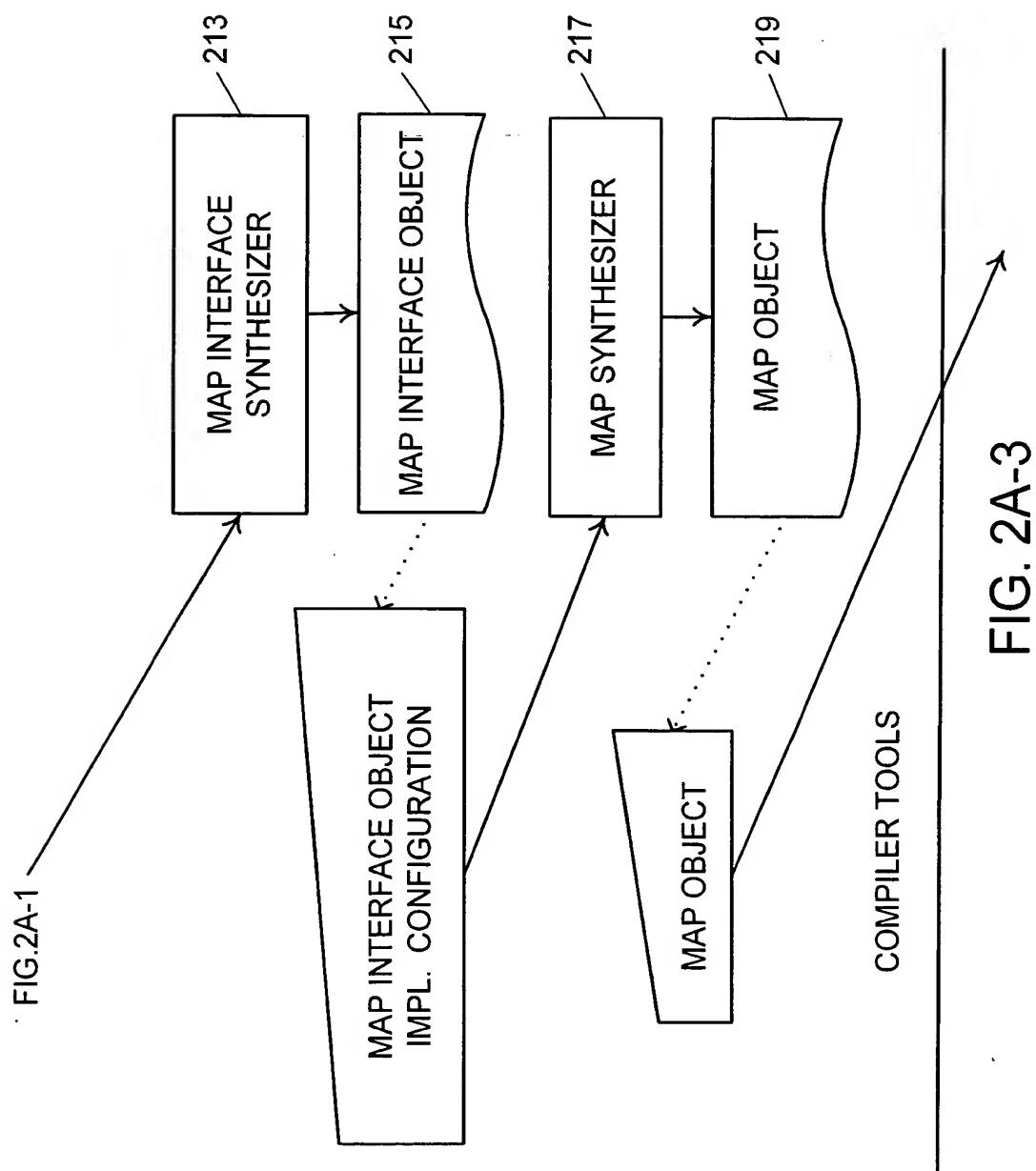


FIG. 2A-2



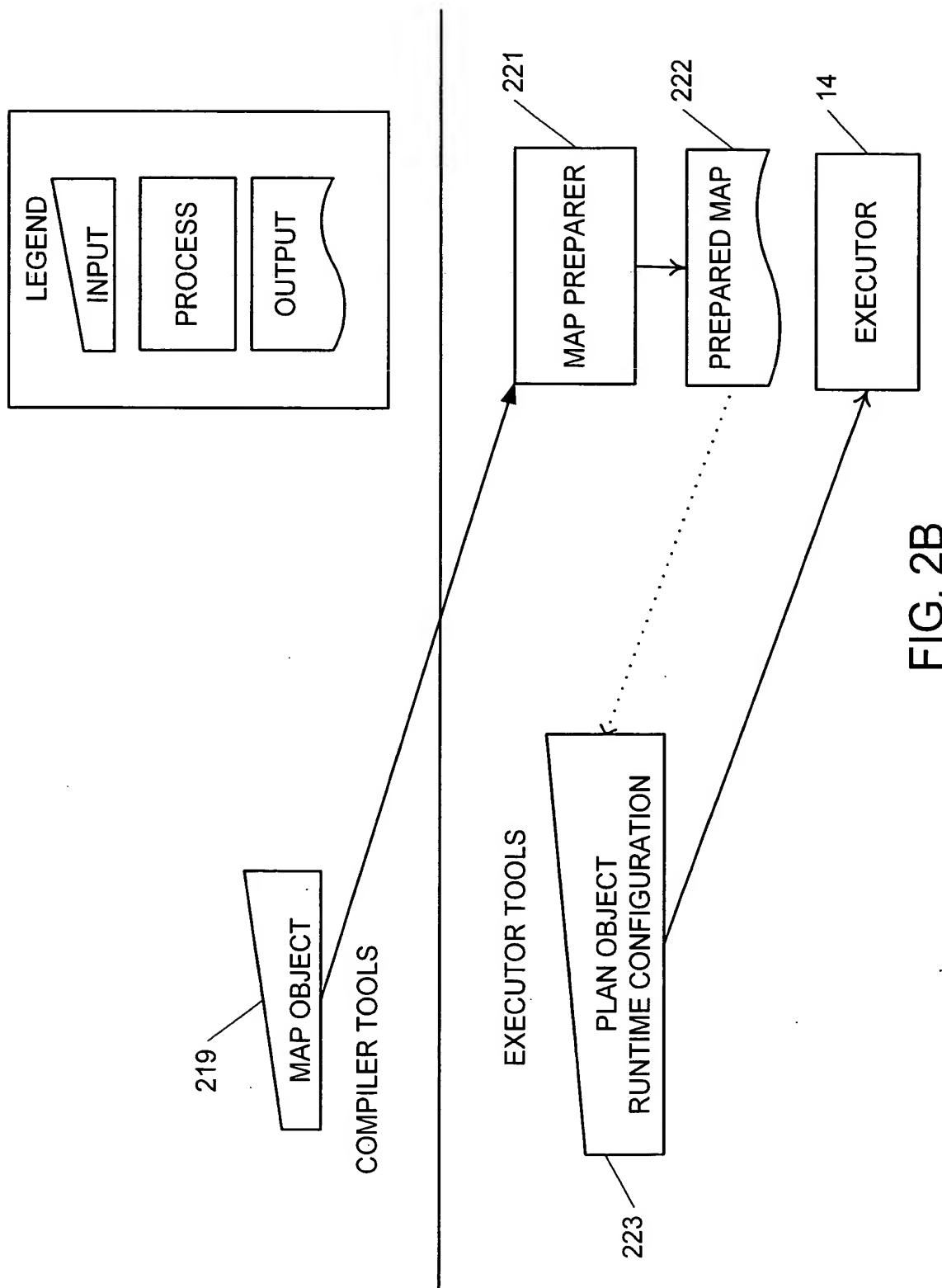
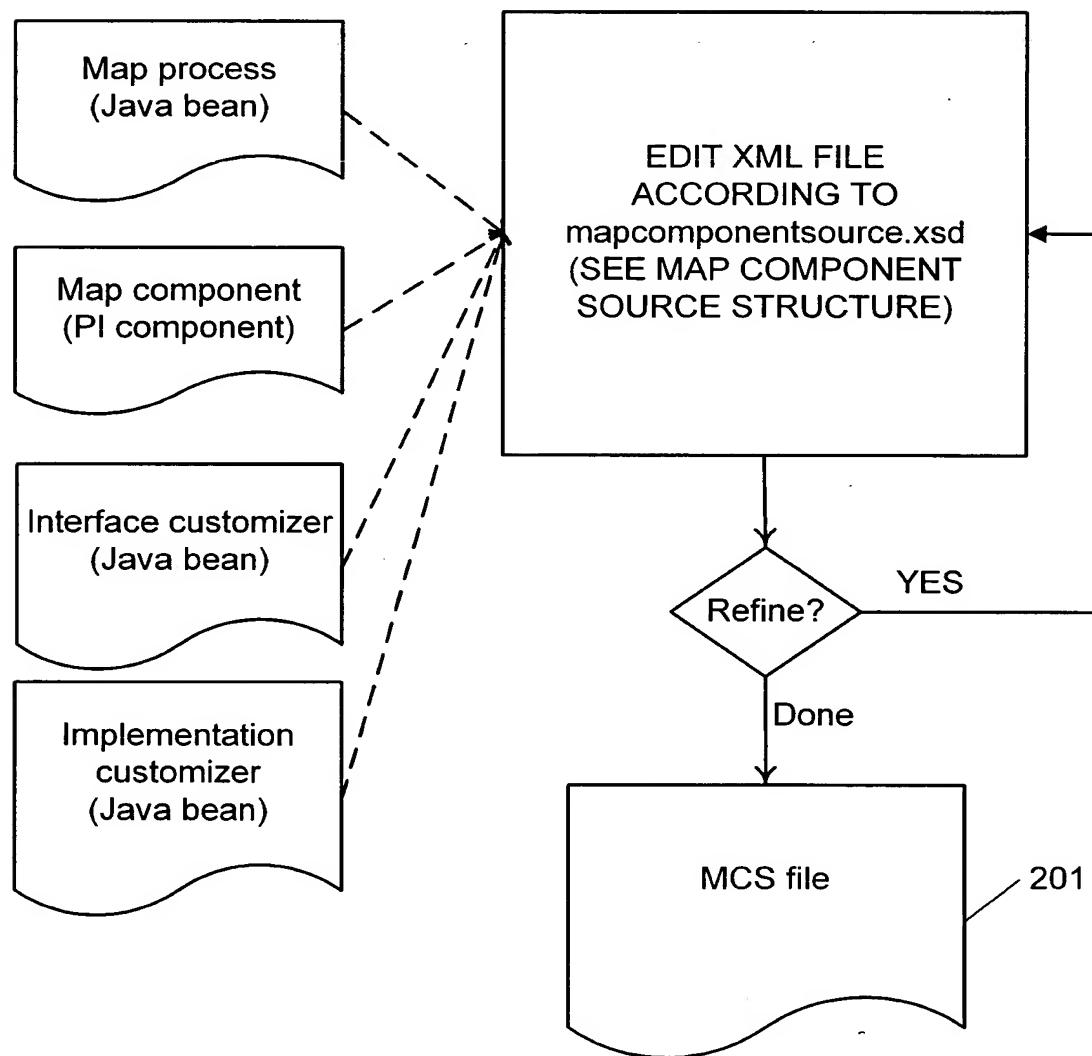


FIG. 2B

**MAP COMPONENT SOURCE CREATION****FIG. 3**

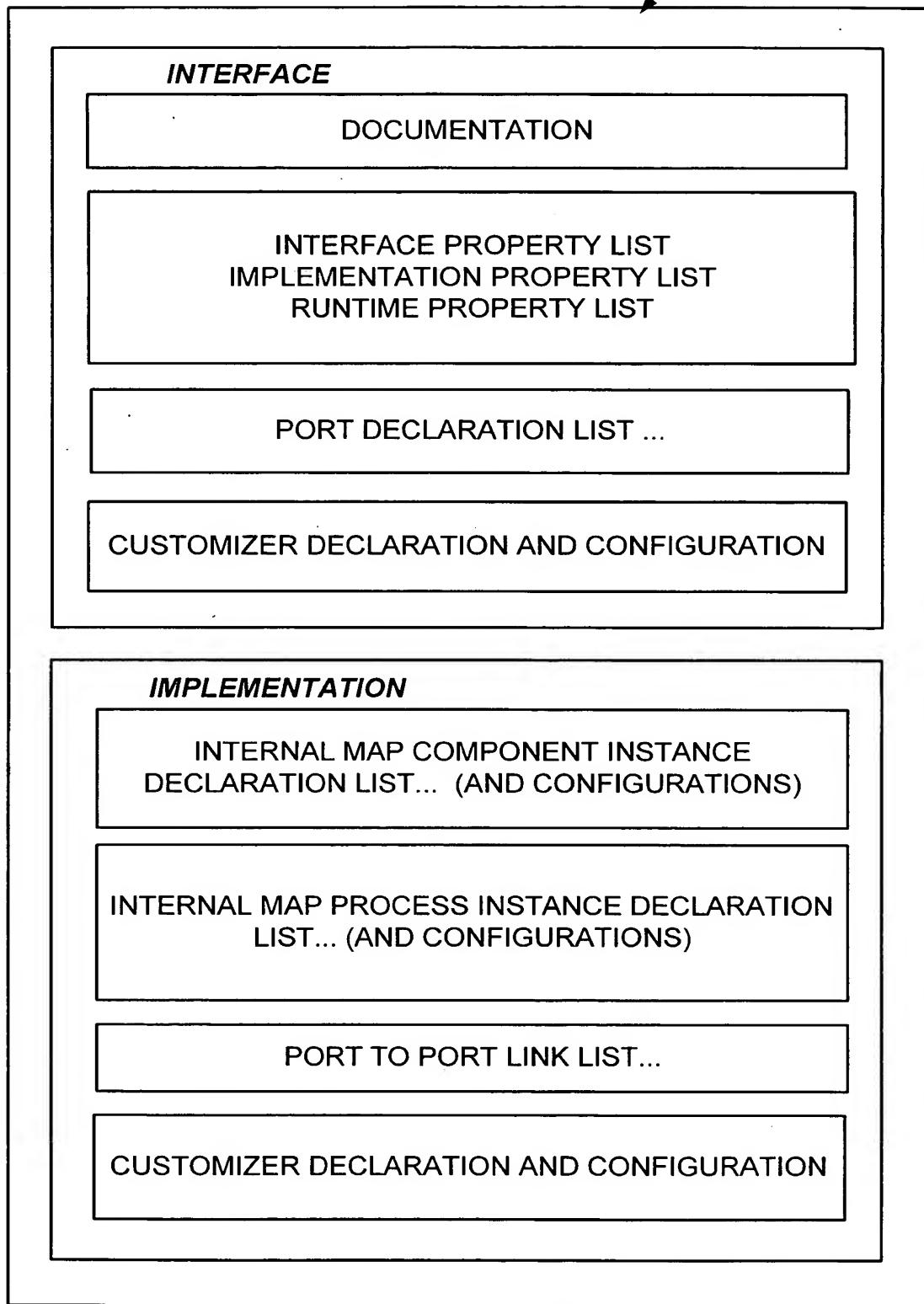
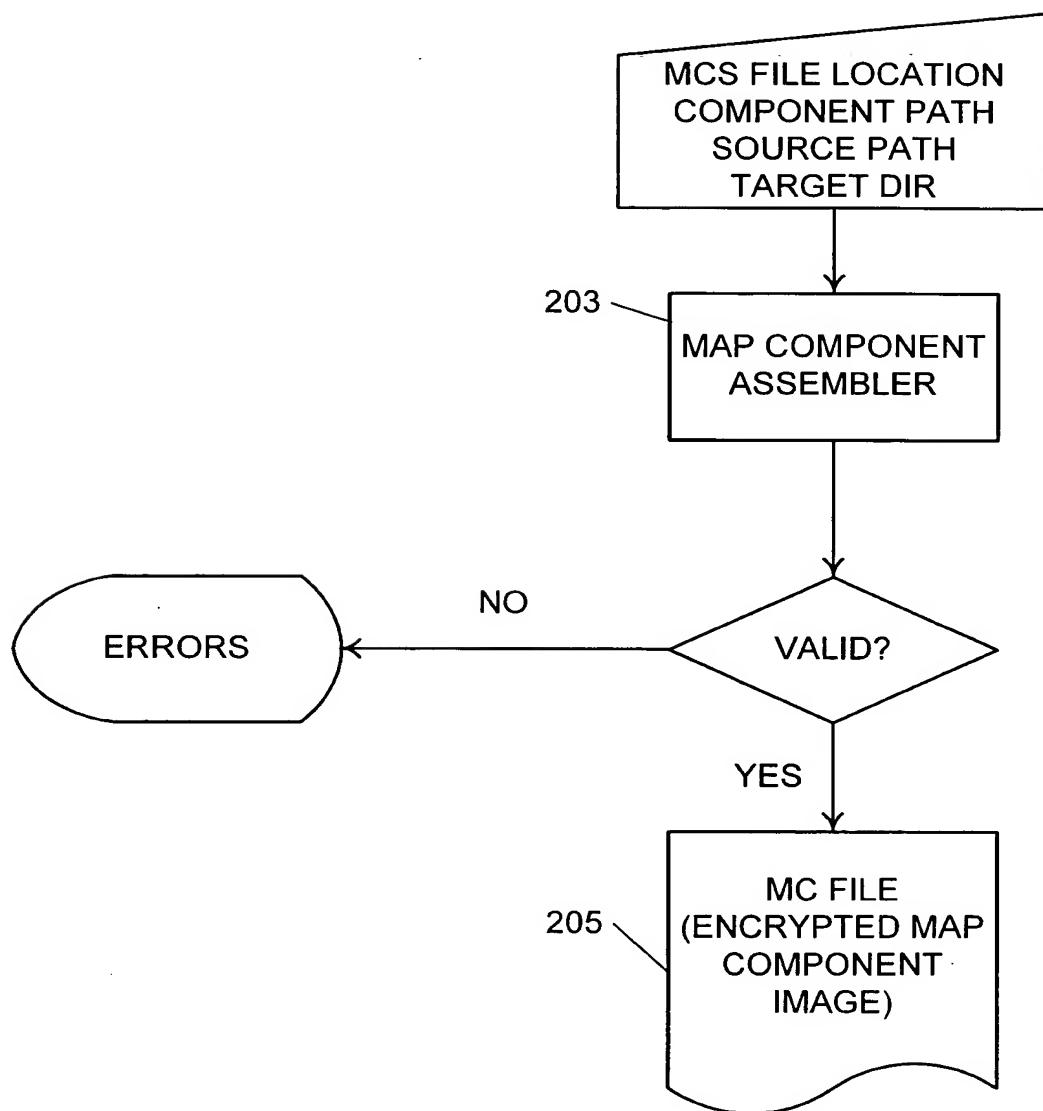


FIG. 4

**MAP COMPONENT ASSEMBLY PROCESS****FIG. 5**

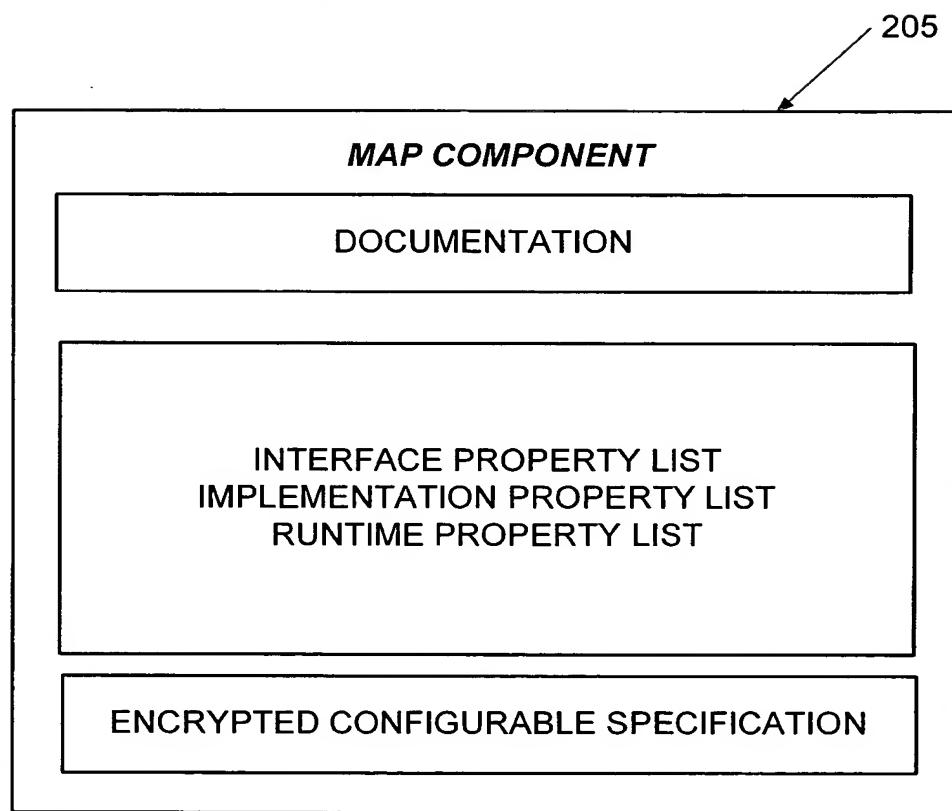
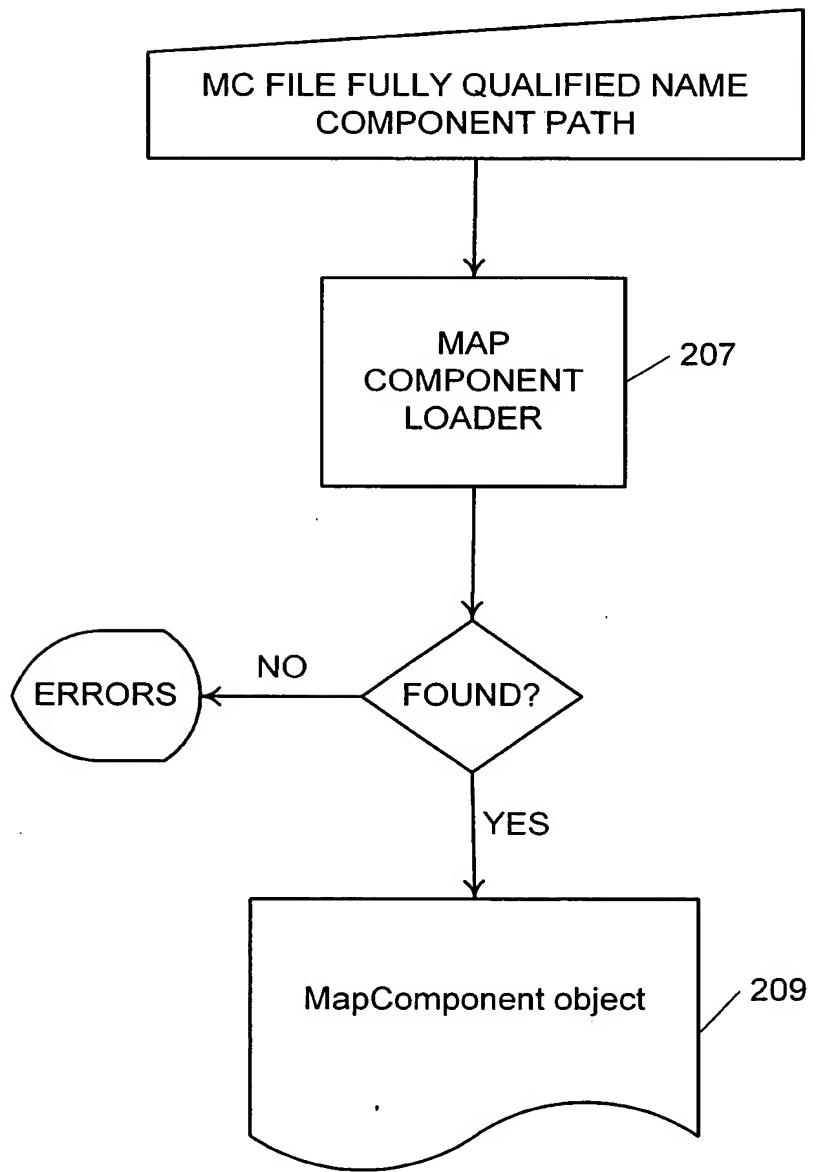


FIG. 6

**MAP COMPONENT LOADING****FIG. 7**

## MAP INTERFACE SYNTHESIS

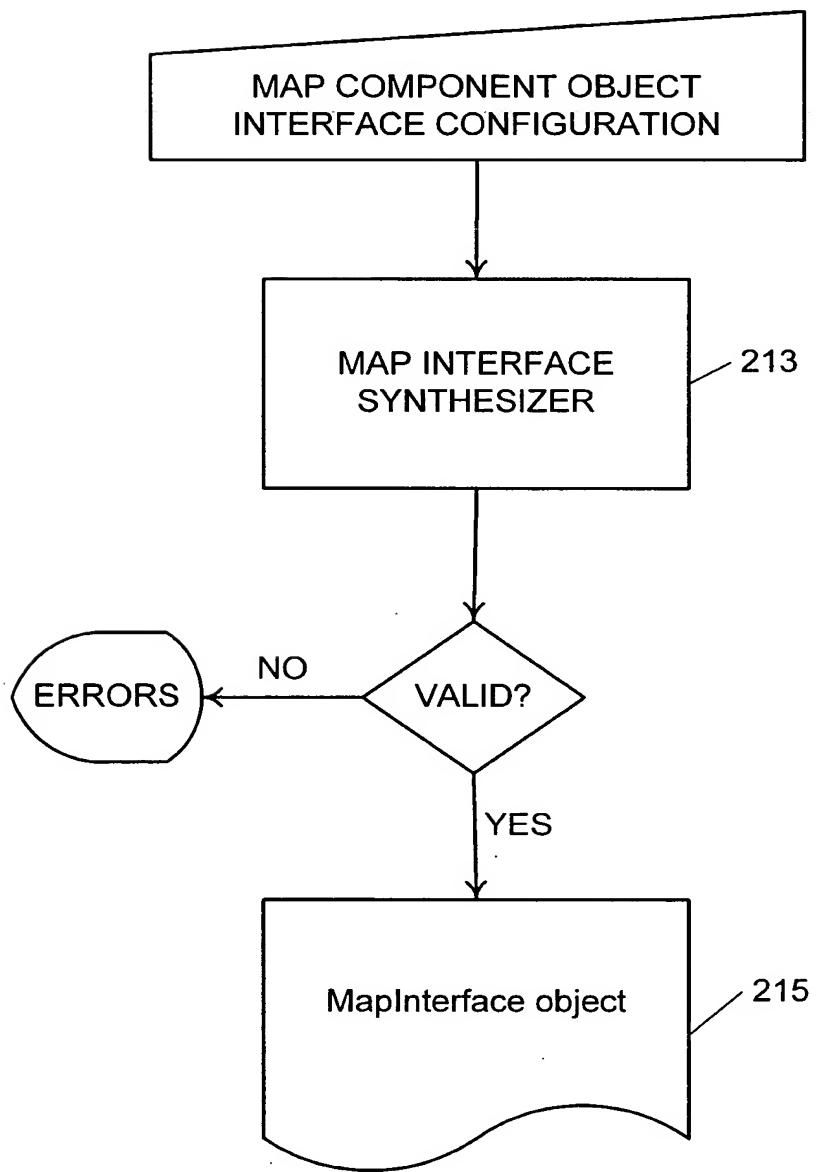


FIG. 8

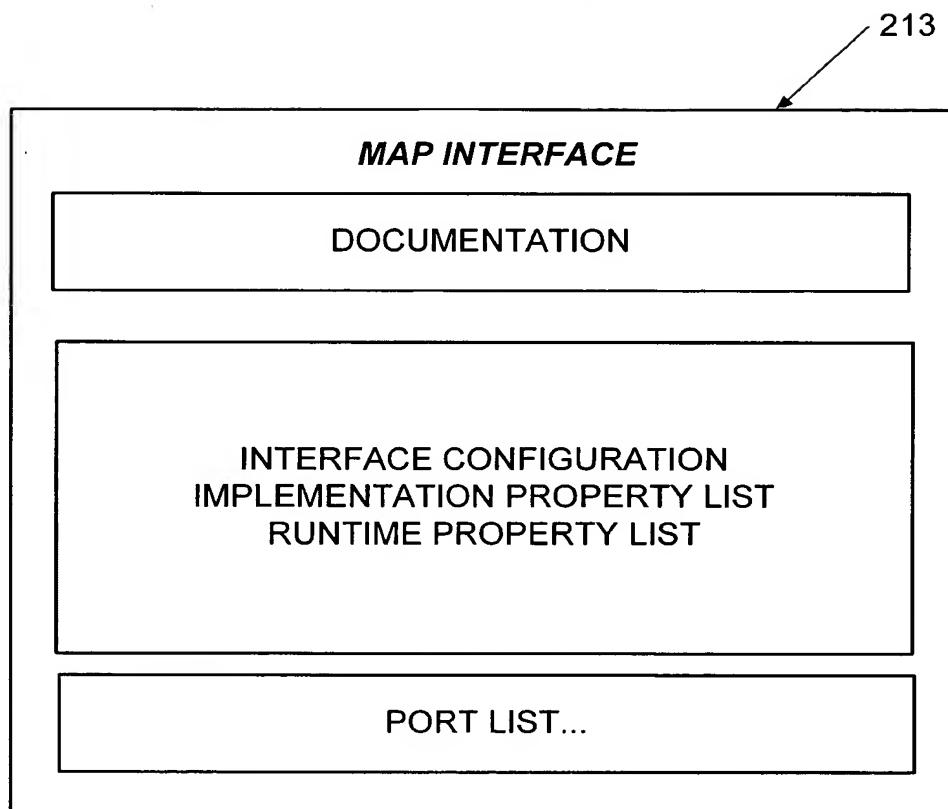
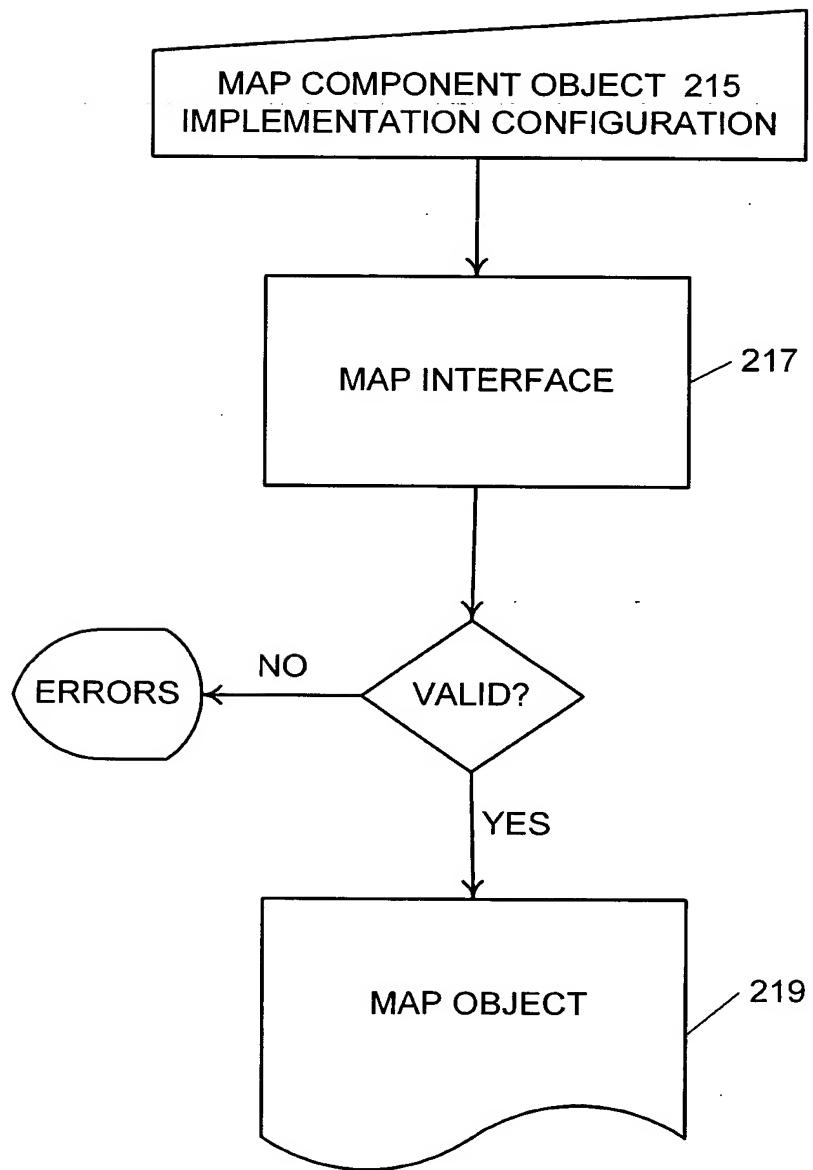


FIG. 9

**MAP SYNTHESIS****FIG. 10**

219

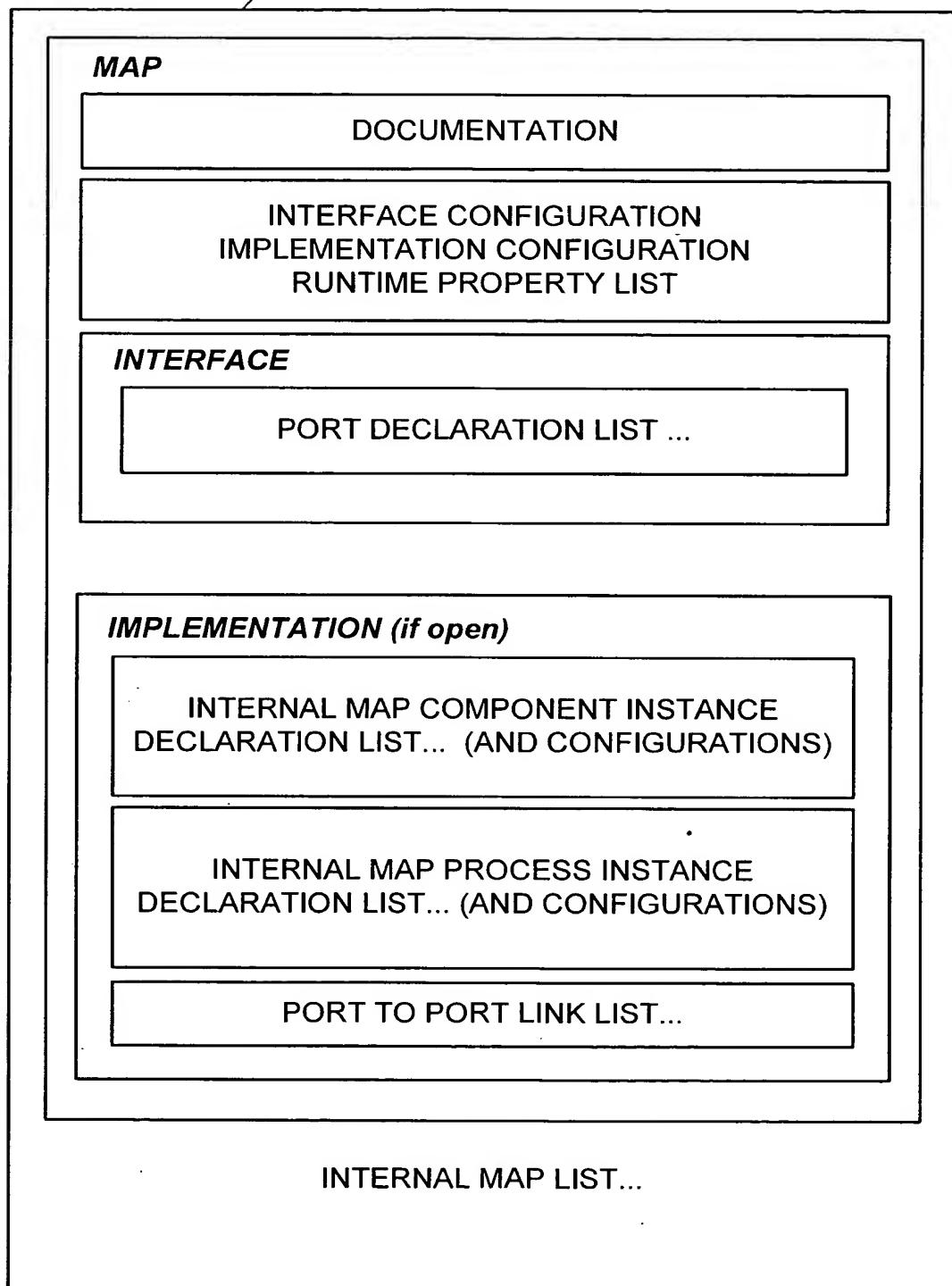
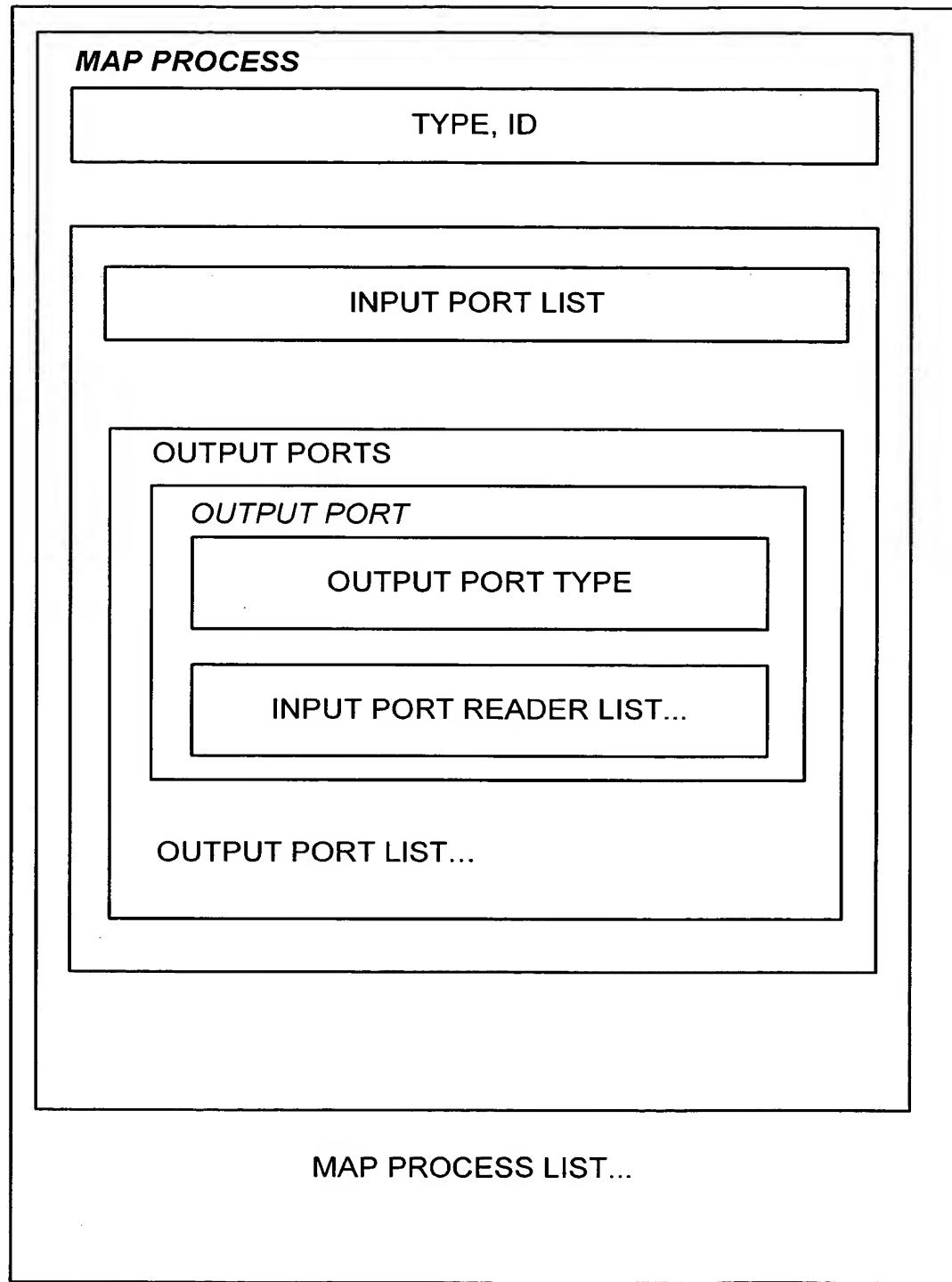


FIG. 11



**FIG. 12**

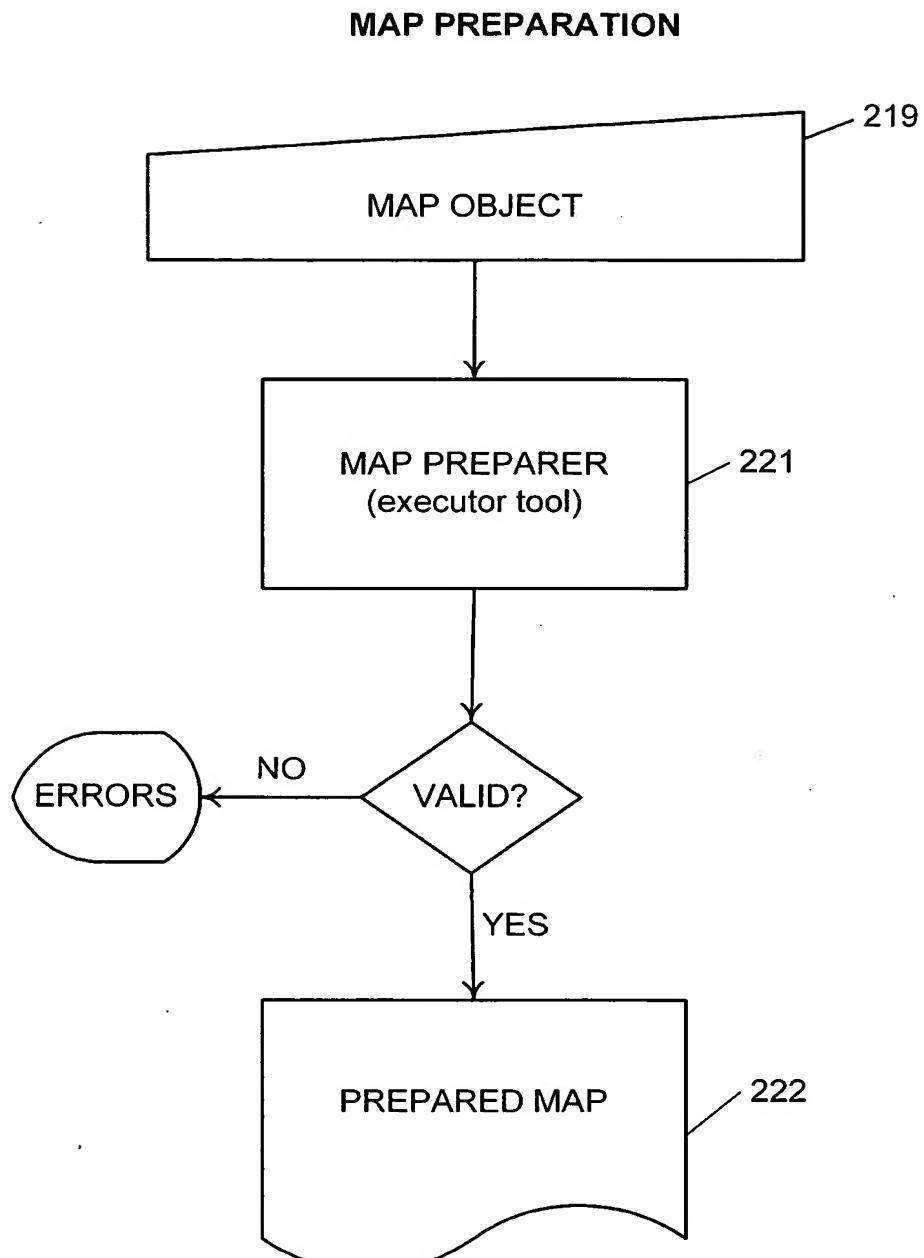


FIG. 13

## PREPARED MAP EXECUTION

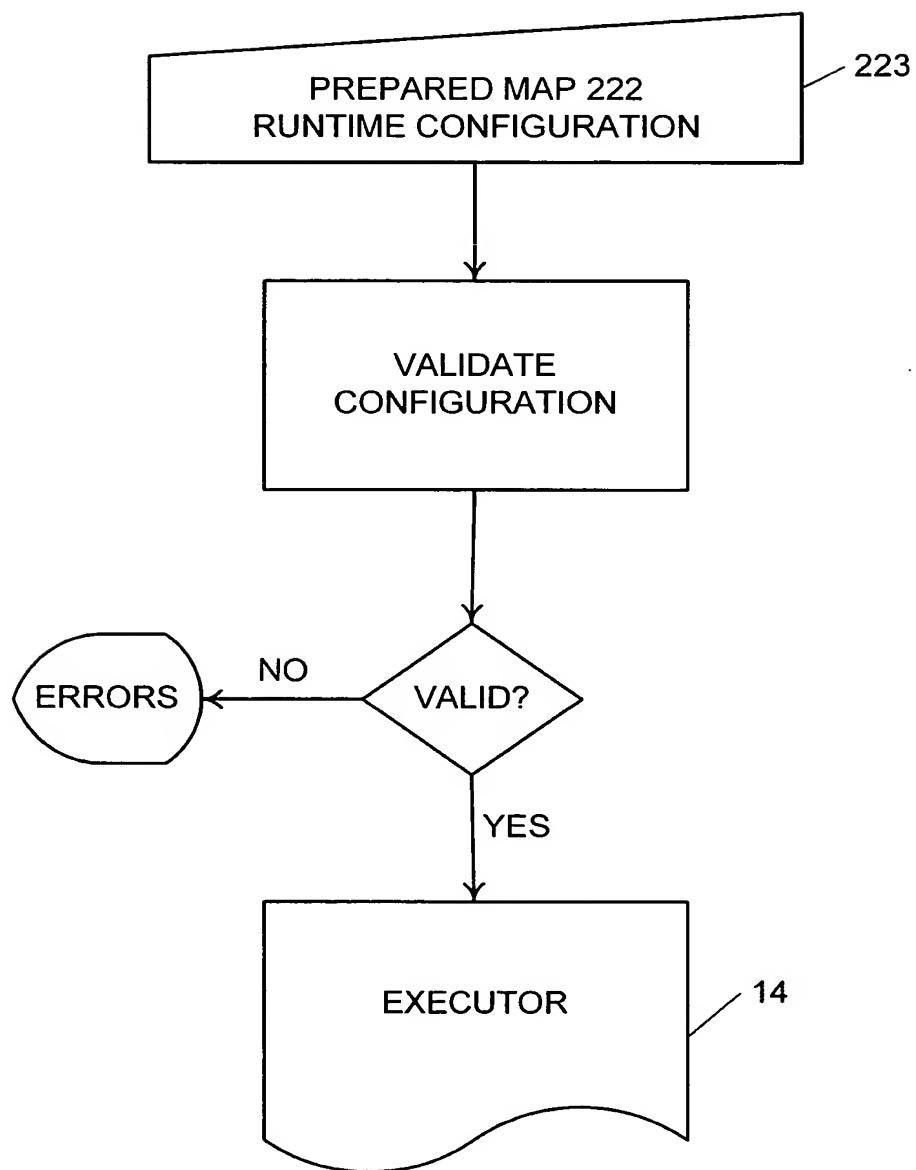


FIG. 14

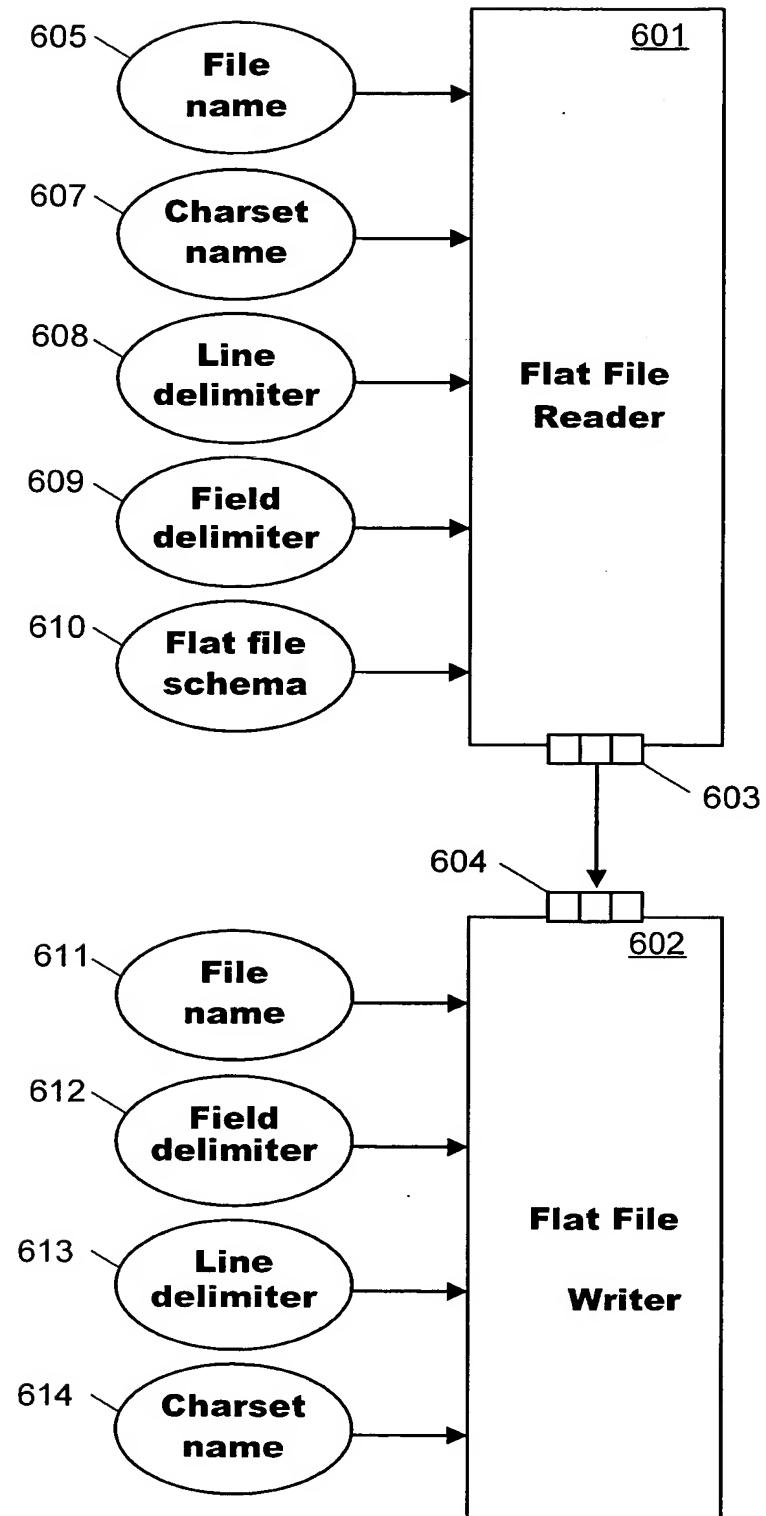


FIG. 15

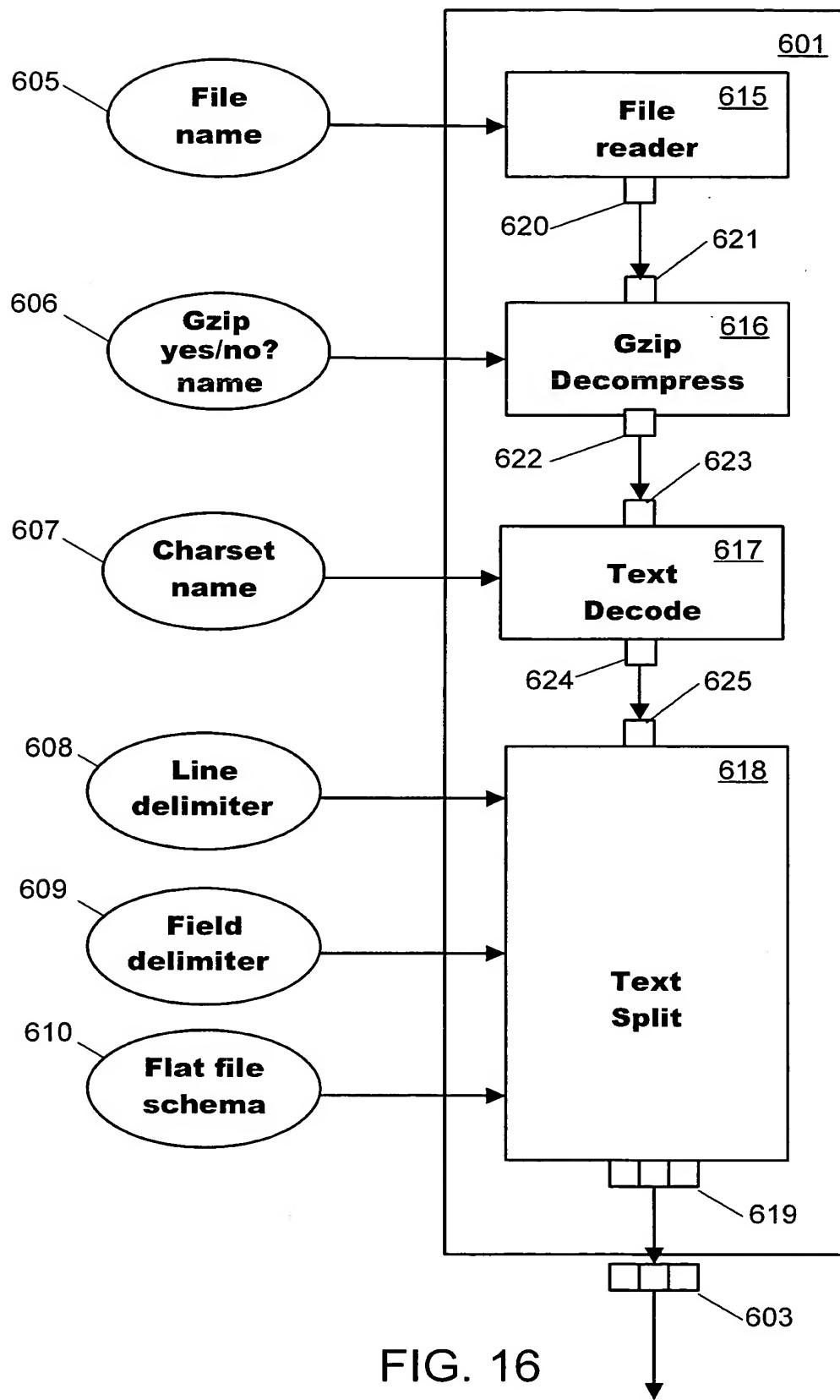
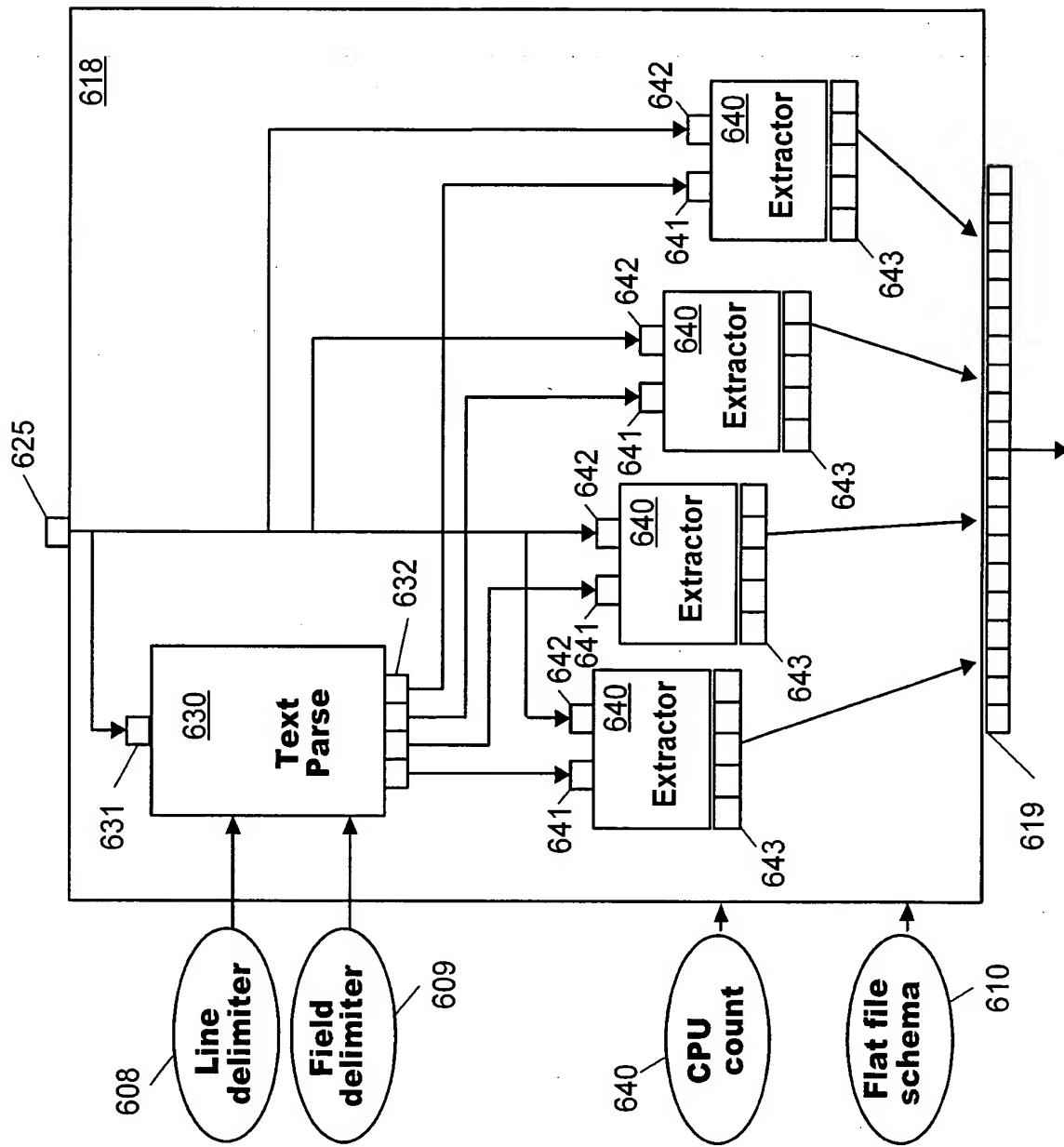


FIG. 16

FIG. 17



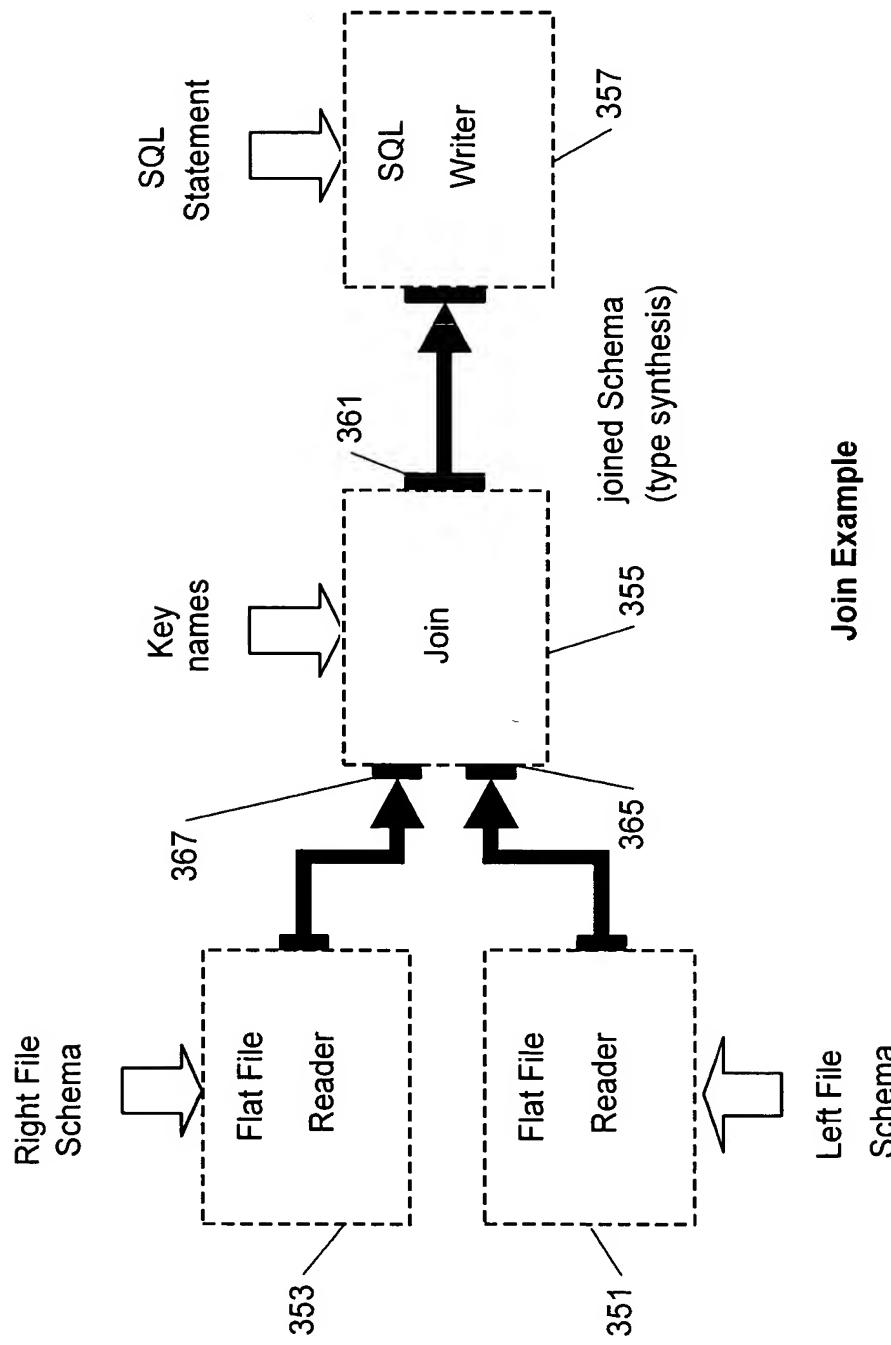


FIG. 18

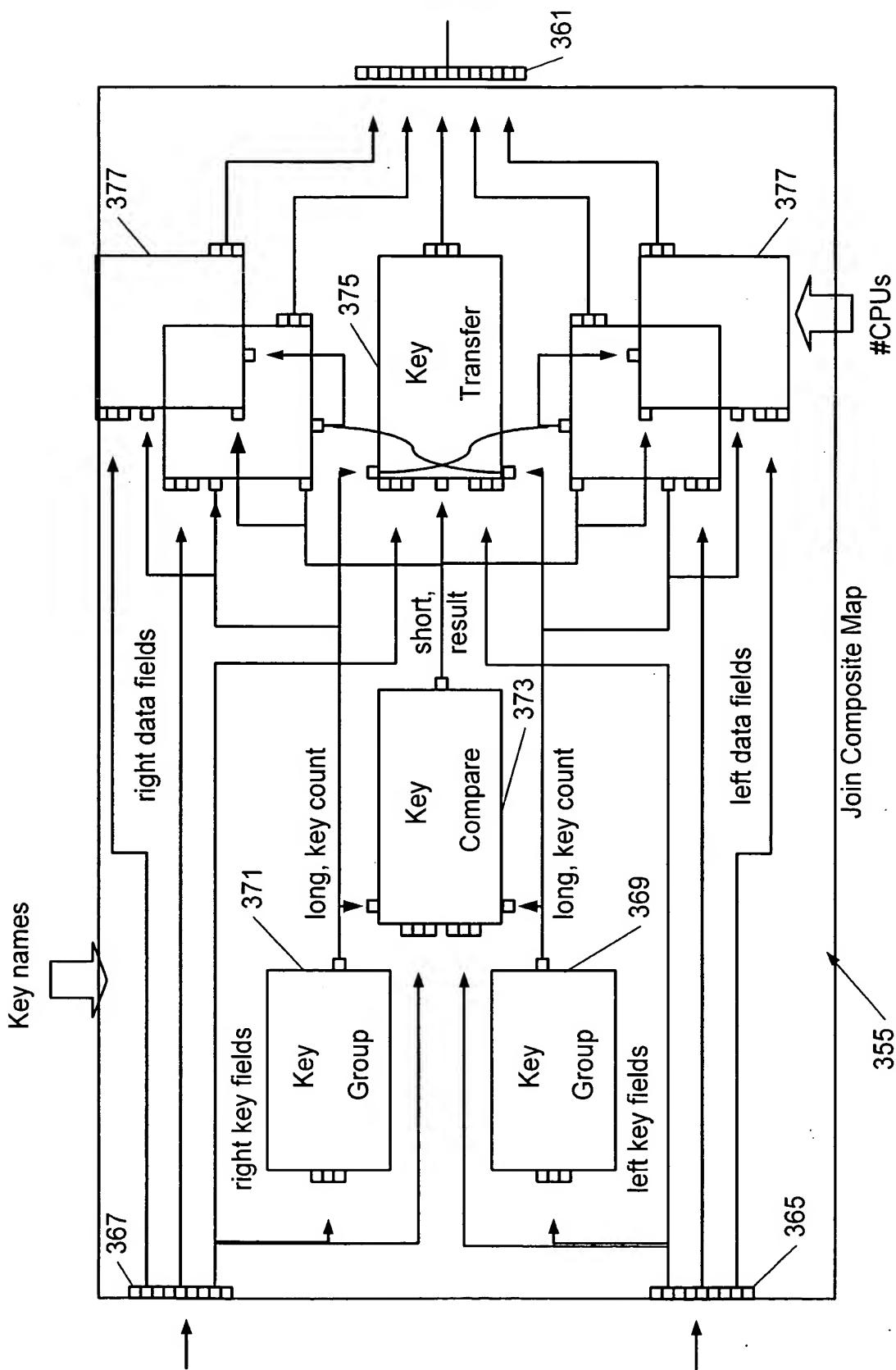


FIG. 19

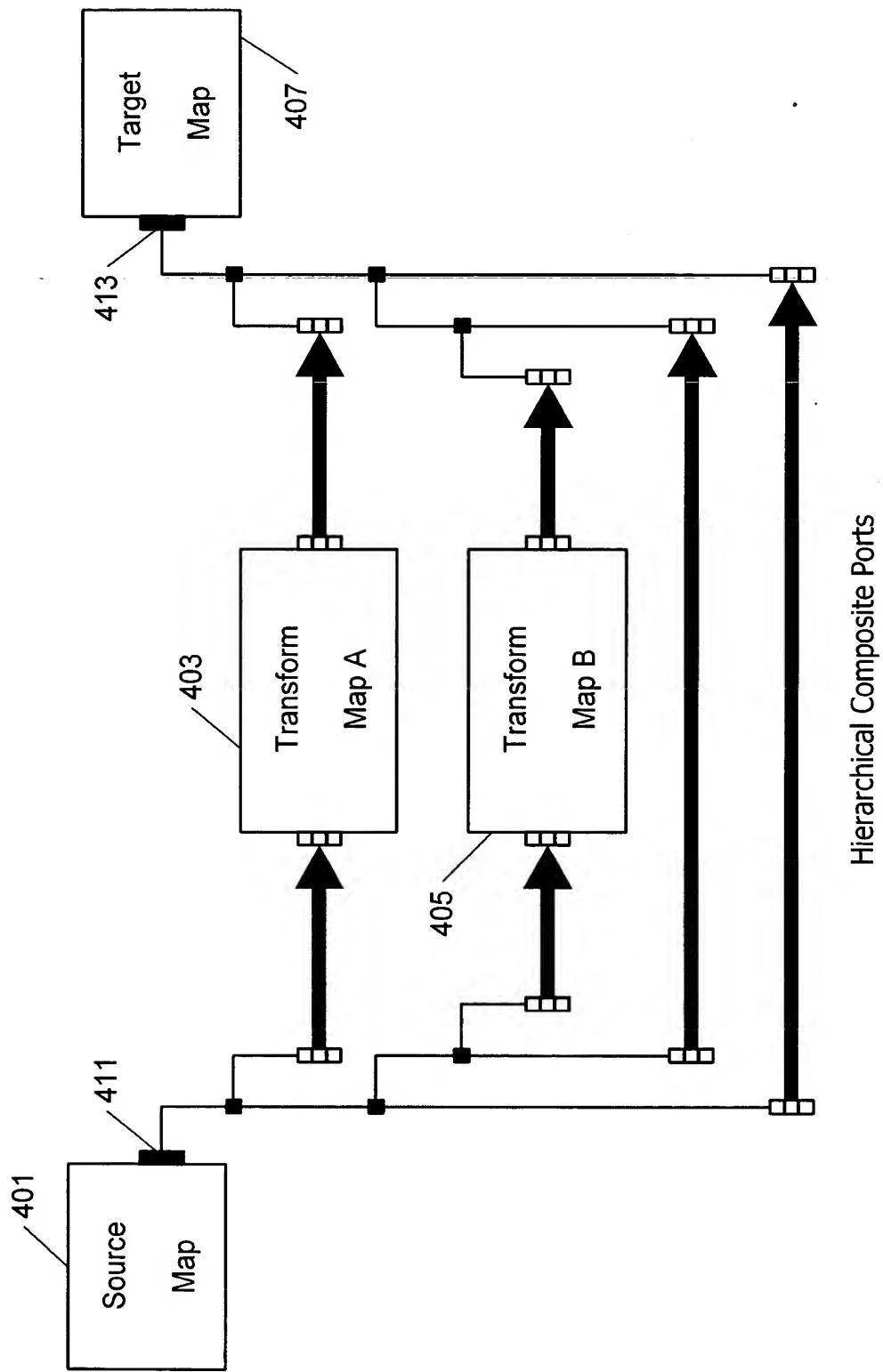


FIG. 20

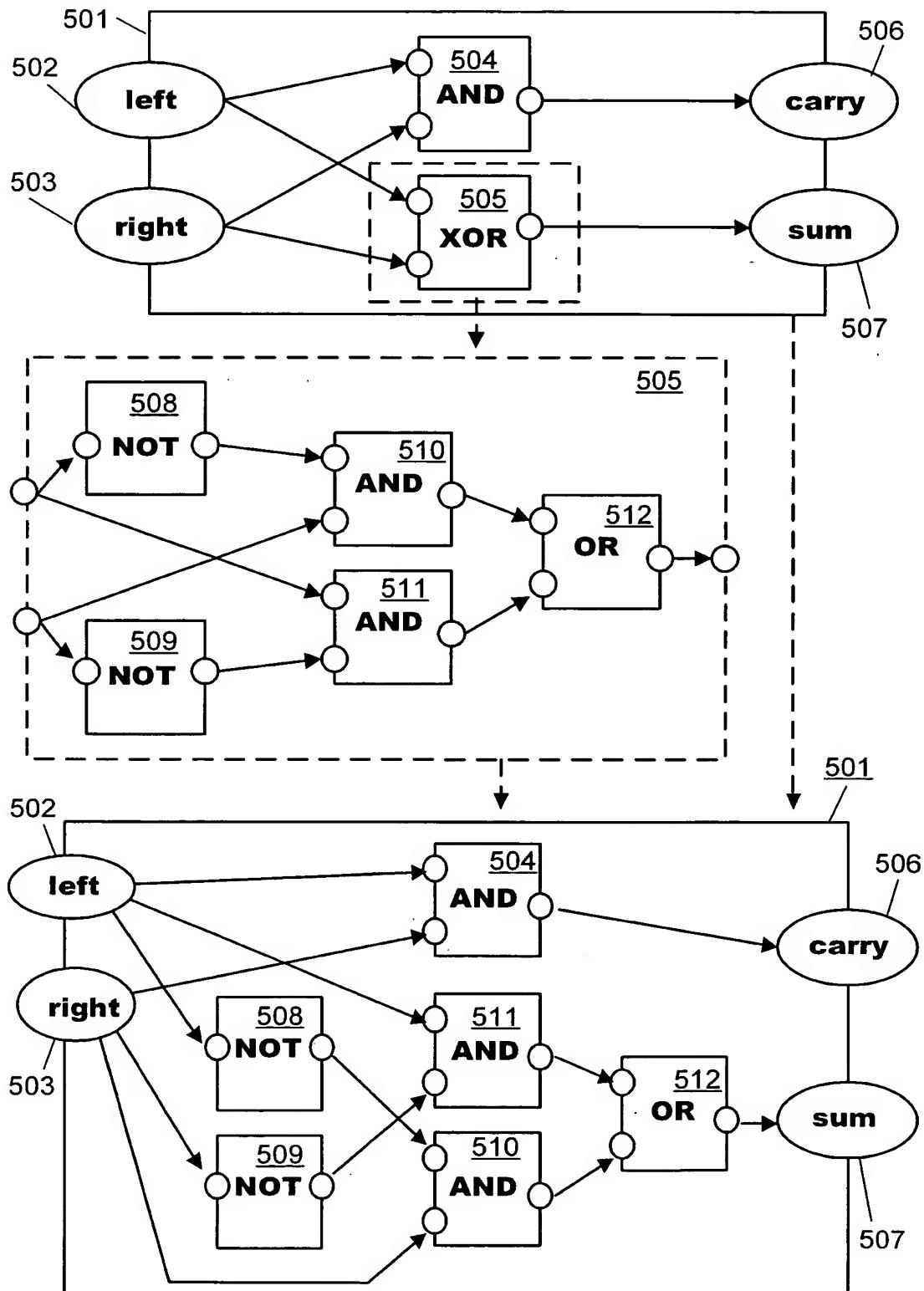
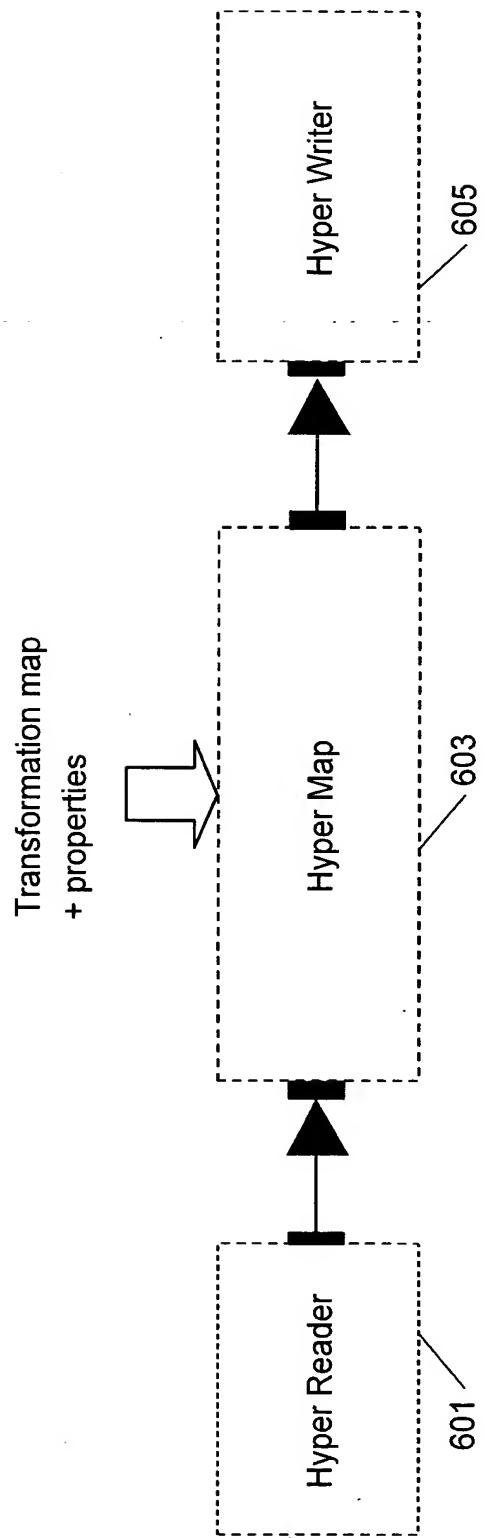
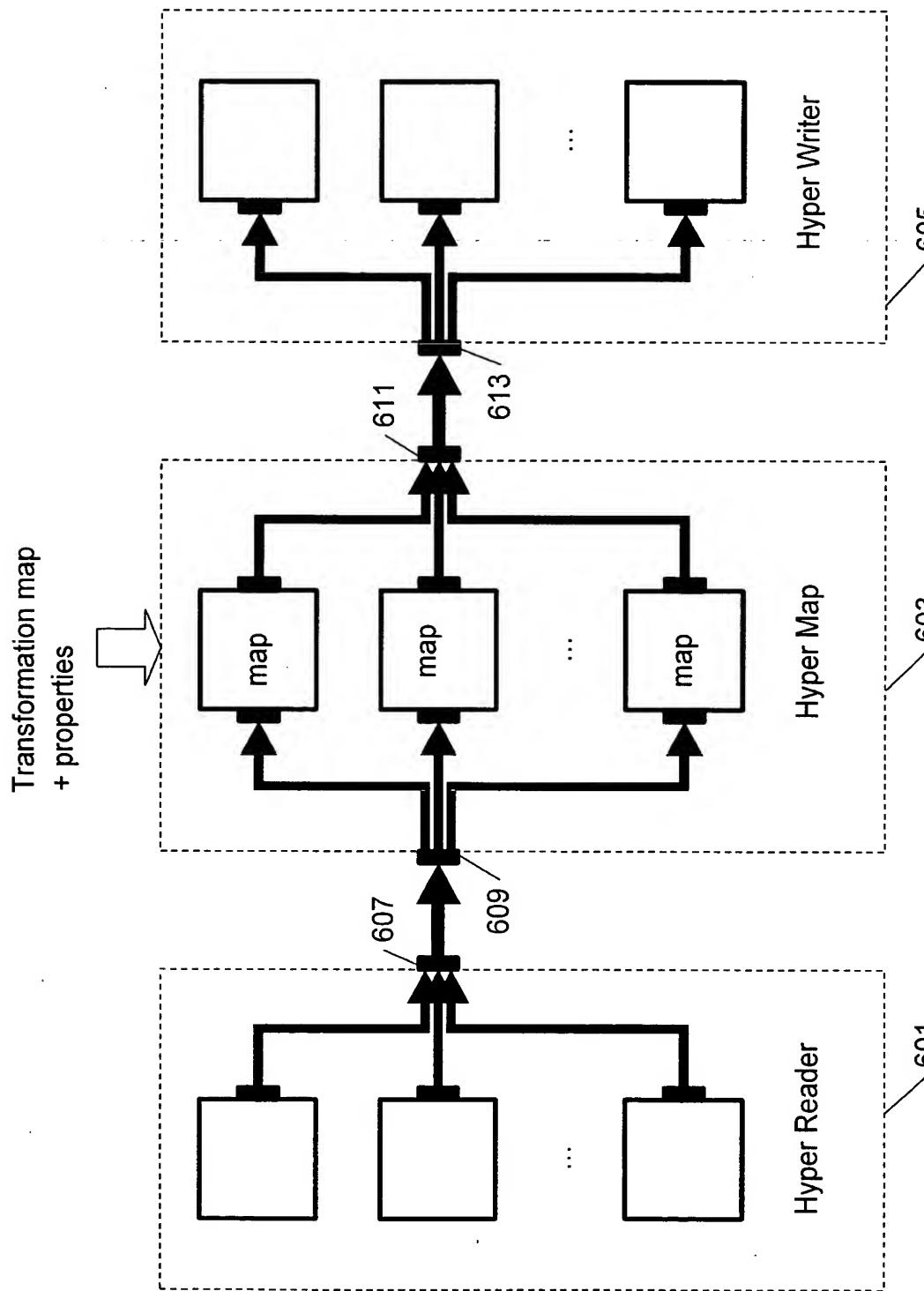


FIG. 21

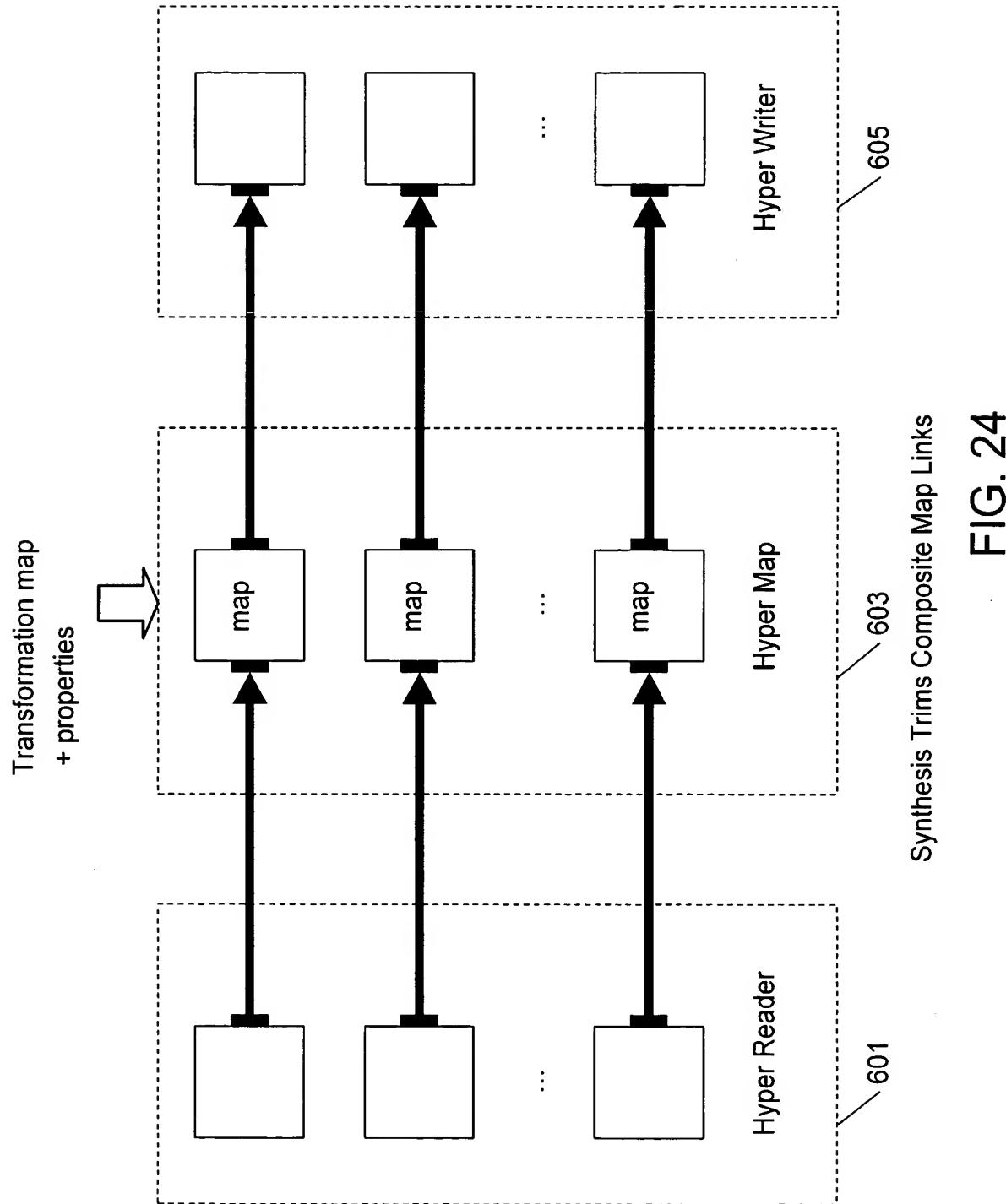


Hyper Map is a Map Template

FIG. 22



Hyper Map Implements Partitioned Parallelism  
**FIG. 23**



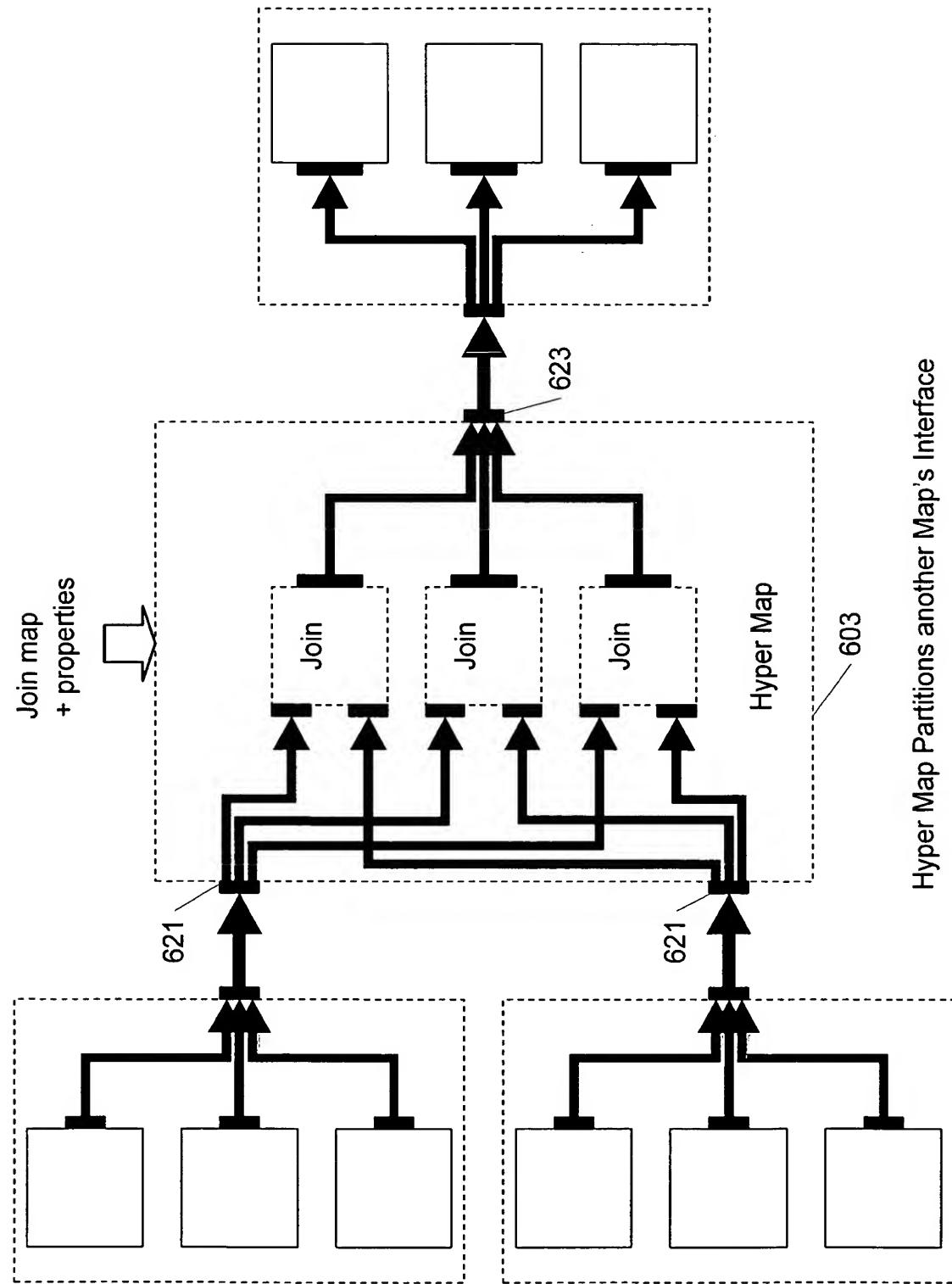
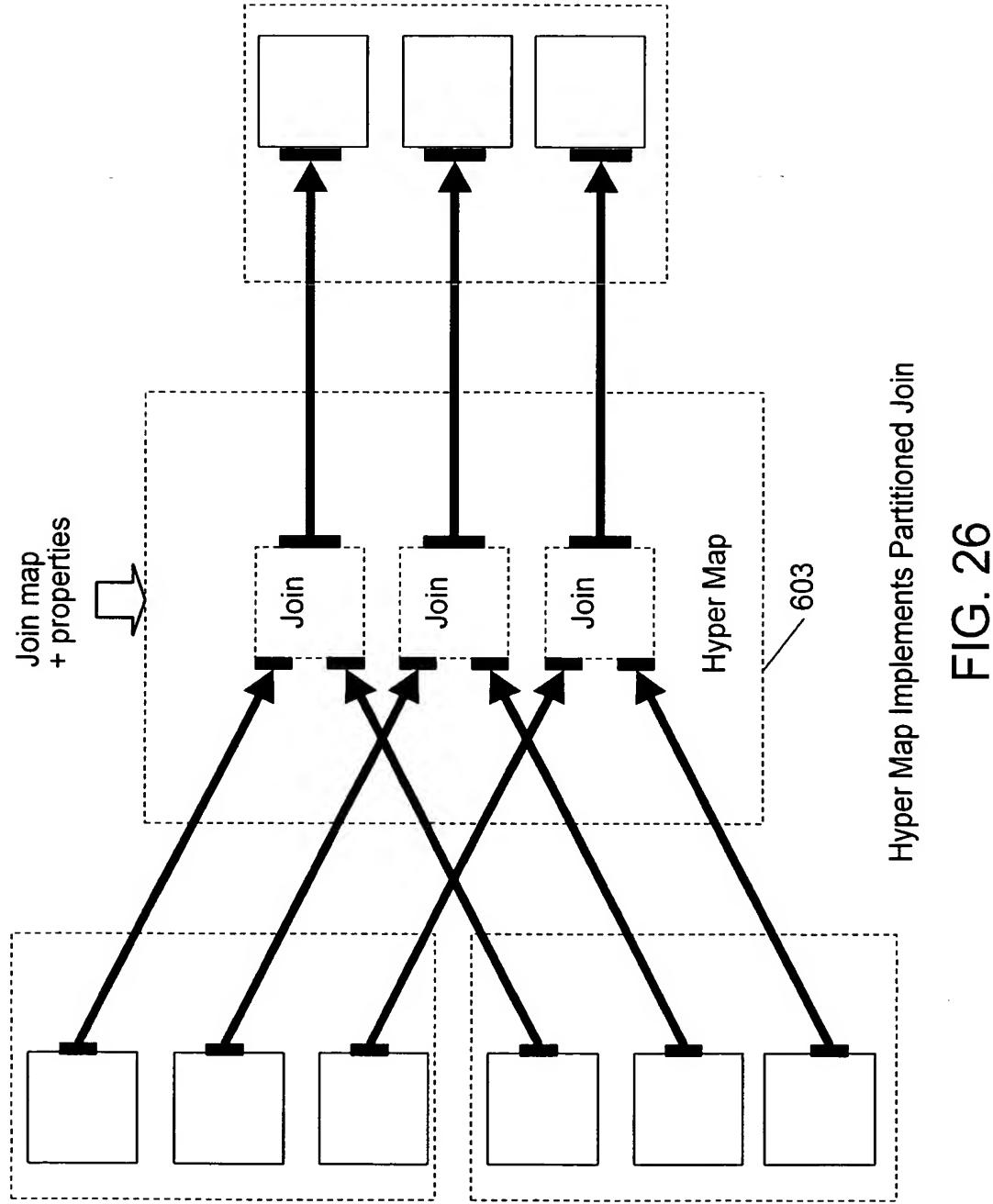
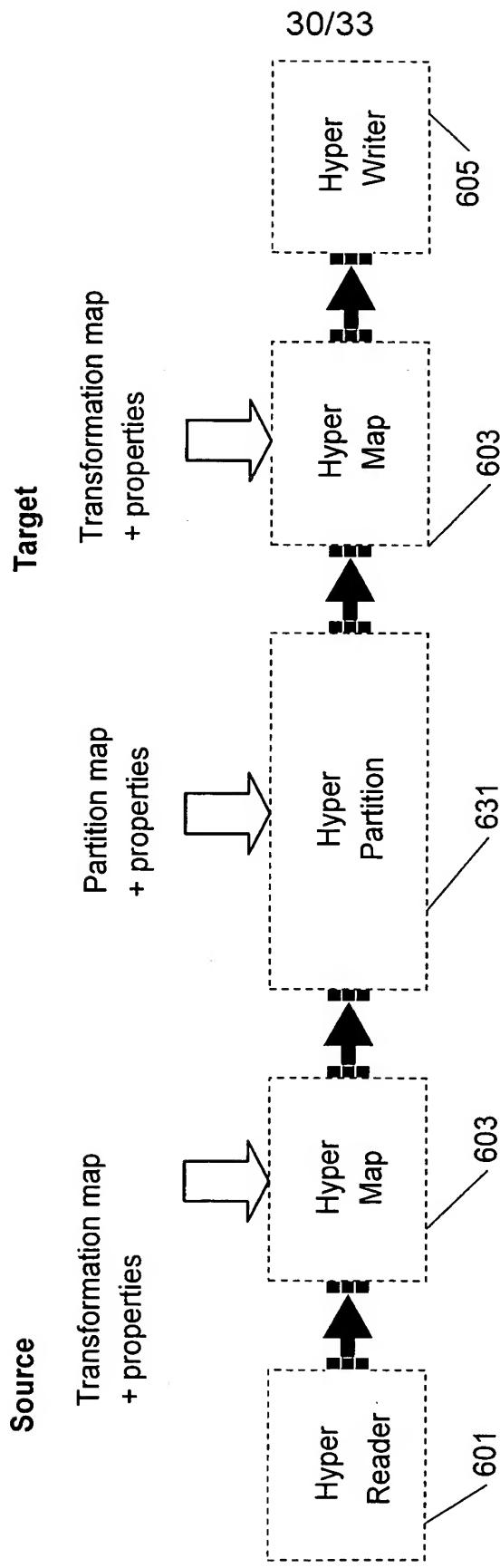


FIG. 25

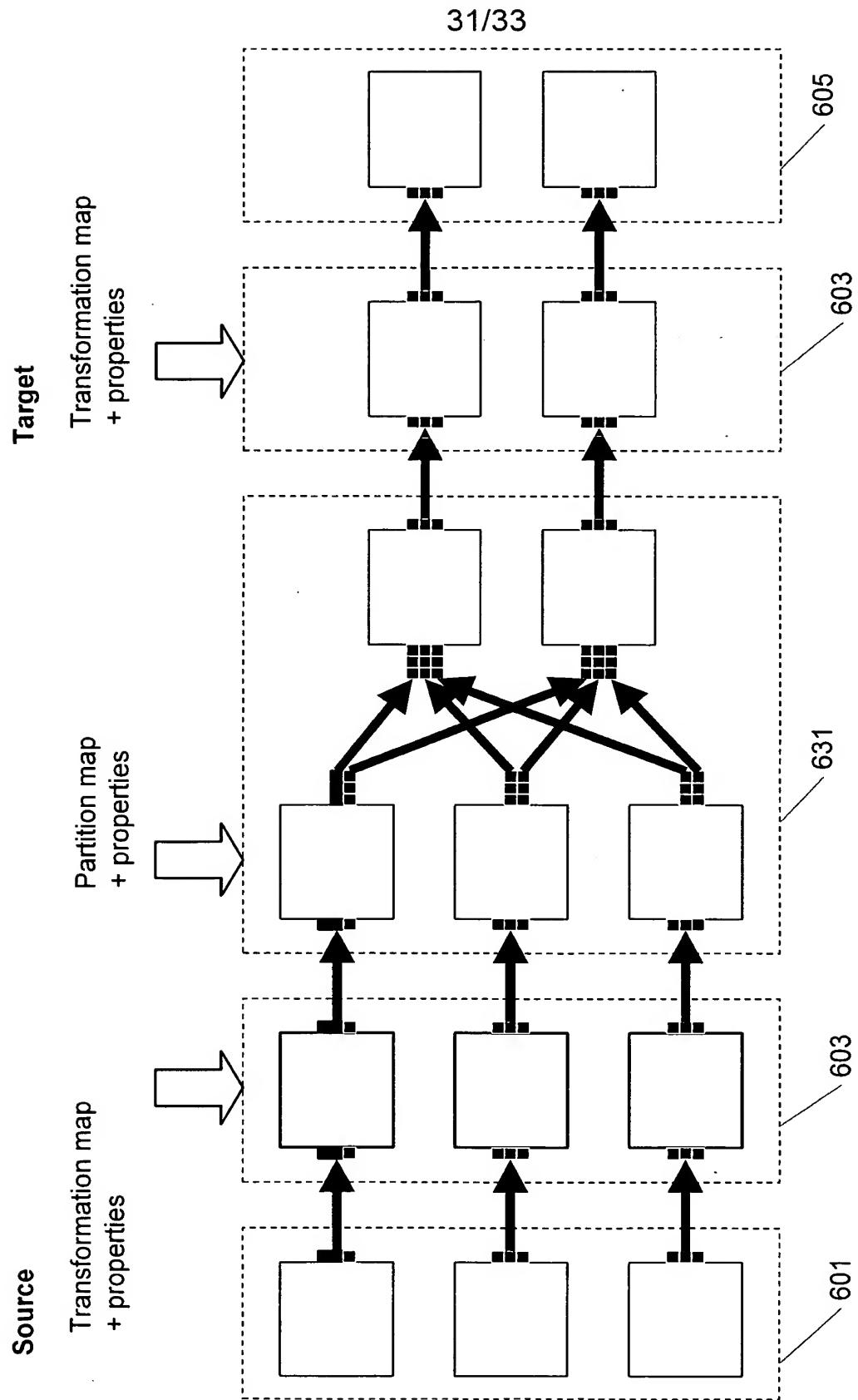
Hyper Map Partitions another Map's Interface





Hyper Partition is a Map Template

FIG. 27



## Hyper Partition corrects Partition Schema Mismatch

FIG. 28

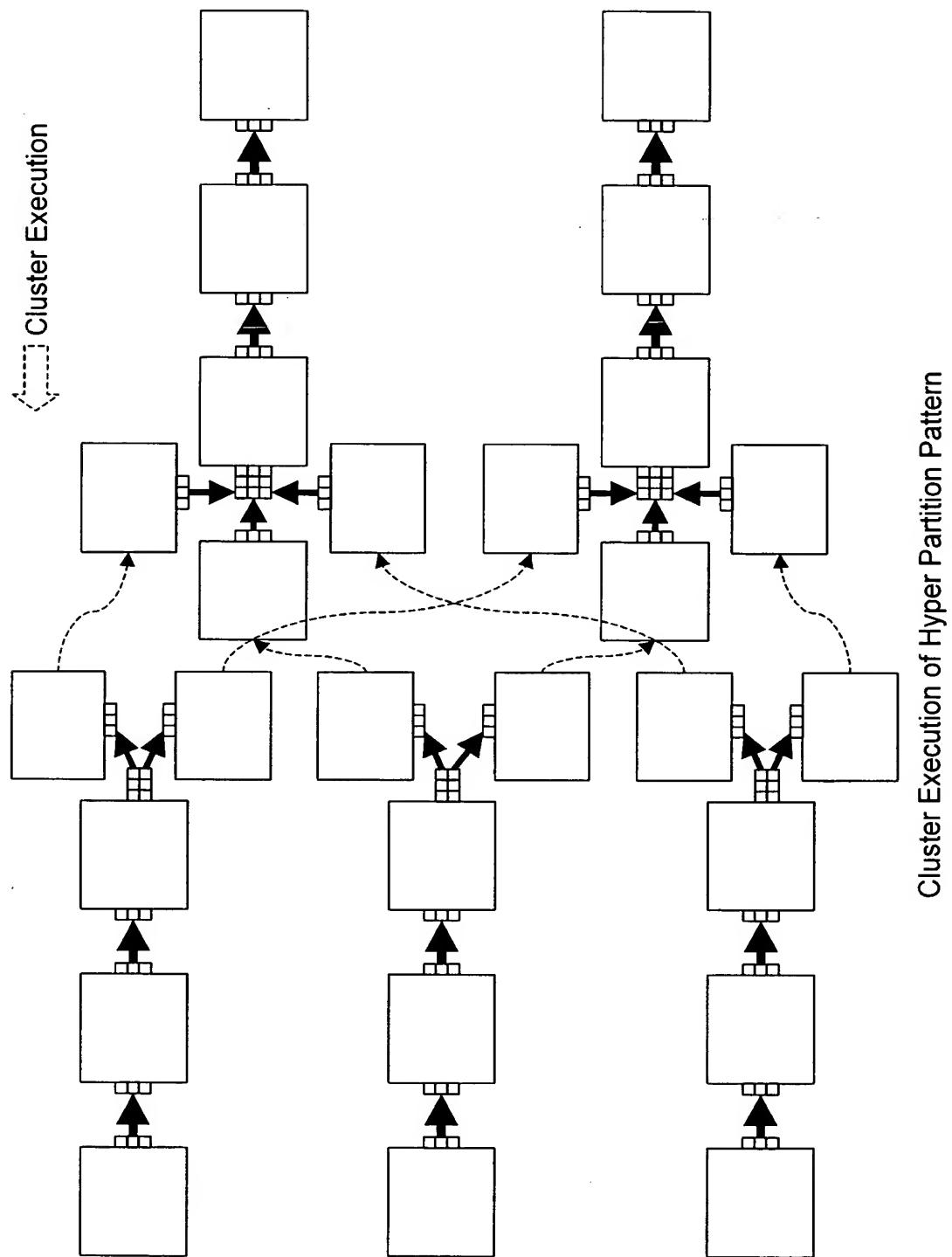


FIG. 29

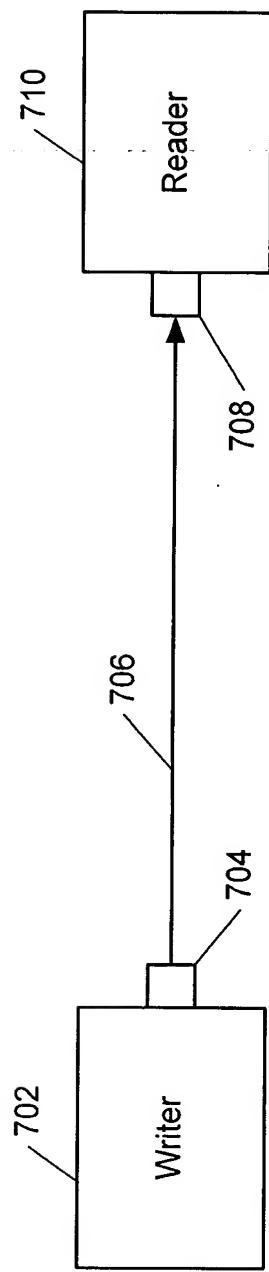


FIG. 30